MEMORANDUM

TO: District Health Directors
Nurse Managers

FROM: Jim Farrell, Director
Division of Immunization

DATE: April 21, 2006

SUBJECT: Multi-state Mumps Outbreak

As you know, the state of Iowa has been experiencing a large outbreak of mumps that began in December 2005. To date 975 cases have been identified. As part of their outbreak investigation, the Iowa Department of Public Health identified two persons diagnosed with mumps who were potentially infectious during airline travel between March 26, 2006 and April 2, 2006. Of the passengers who were notified of possible exposure to mumps, five were Virginia residents. All of the Virginia passengers are healthy and are being followed for 25 days following exposure.

Additional suspected cases are currently being investigated in Virginia. Thus far, none have been directly linked to any Iowa case, although one did travel to Iowa.

The mumps vaccine is about 95% effective in persons having received two doses of vaccine. About 70% of cases in Iowa are among people who have been vaccinated. This is expected when dealing with a vaccine that is 95% effective in a population that is 98% vaccinated for a contagious disease like mumps. According to the CDC the mumps vaccine is working as expected.

Because of the heightened awareness of mumps disease we anticipate increased inquiries from providers regarding mumps disease, laboratory testing and case investigation. Please refer to the Communicable Disease Control Manual http://vdhweb/epi/DCM_guidelines.asp for additional information on mumps disease, investigation, and follow-up of reported cases and their contacts. Additional information from CDC can be found at the following site: http://www.cdc.gov/nip/diseases/mumps/default.htm

Additionally, I have included as attachments to this message, updated guidance on laboratory testing, determination of immunity and a 5 year summary of national and state mumps reported morbidity.

If you have questions regarding mumps please contact
Sandra Sommer at **Sandra.Sommer@vdh.virginia.gov** or
Crista Christian at **Crista.Christian@vdh.virginia.gov**

VDH MUMPS TESTING GUIDELINES AND DETERMINATION OF IMMUNITY FOR MUMPS

Clinical Case Definition

The clinical case definition of mumps is an illness with acute onset of unilateral or bilateral tender, self-limited swelling of the parotid or other salivary gland, lasting >2 days, and without other apparent cause.

Laboratory Testing (Call VDH Division of Immunization) 804-864-8055

(Current laboratory methods provide results within days to weeks after specimen receipt. There is no rapid test available for mumps diagnosis at the present time.)

Only those cases that meet the clinical case definition will be tested.

Acute mumps infection can be confirmed by the presence of serum mumps IgM, a significant rise in IgG antibody titer in acute and convalescent serum specimens, or positive mumps virus culture. DCLS can perform mumps virus culture and will send the serological specimens to CDC.

CDC highly recommends both the collection of serum samples and a mumps viral specimen (parotid gland/buccal swab or urine) on each person with suspected mumps as close to symptom onset as possible. A parotid gland/buccal swab is the preferred specimen for mumps virus culture.

Serum IgM and/or IgG

Sera should be collected within 5 days after onset of parotitis for IgM testing or as the acute specimen for examining seroconversion. The convalescent specimen for IgG detection should be drawn about 2 weeks later. IgM antibodies are detectable within the first few days of illness, reach a maximum level about a week after onset of symptoms, and remain elevated for several weeks or months. (If the suspected case has received one or more doses of MMR, the IgM response may be missing, delayed or transient.)

Parotid gland/buccal swab or urine for mumps virus culture

Virus may be isolated from parotid gland secretions collected via buccal swab from 7 days before up to 5 to 9 days after salivary gland enlargement, and from urine during the period from 6 days before up to 15 days after the onset of parotitis. However, collection within 1 to 4 days after onset is optimal to detect virus by culture.

DCLS specimen collection for mumps

Serum (for mumps IgM and IgG): Collect 7-10 ml of blood in a red top or serum separator tube (SST).

Parotid gland secretions/buccal swab (for mumps virus culture): Massage the parotid gland area (the space between the cheek and teeth just below the ear) for about 30 seconds prior to collection of the buccal secretions. Use a virus collection swab (polyester) to swab the buccal cavity, i.e. the space inside the mouth near the upper rear molars between the cheek and the teeth. Immediately place the buccal swab into a tube of viral transport medium and secure screw-capped lid to prevent leakage.

Urine (for mumps virus culture): Collect clean catch urine (5 to 10 ml) in a sterile container. Submit to laboratory in sterile screw-capped cup or test tube. BE SURE CONTAINER IS LEAKPROOF.

Specimen shipment to DCLS

Each specimen must be labeled with patient name, specimen type, and collection date.

For each patient, completely fill out a DCLS reference request form (DGS-22-164). List each type of specimen submitted. Under "test requested" line, write: "Mumps".

Serum and specimens for virus culture must be stored and shipped refrigerated. Do NOT freeze specimens. Include cold packs in the shipping container to maintain refrigeration during shipment. Please add "attn: virology" to the DCLS shipping label on the outside of the shipping container.

After discussing the case with VDH Division of Immunization, please contact DCLS about specimen shipping so that DCLS is prepared to process specimens when they arrive. If possible, specimens should be shipped on the day of collection. Specimens must be received and processed for virus culture within 72 hours of collection. DCLS may be reached during business hours by telephone 804-648-4480 or anytime 24/7 by DCLS emergency pager 804-418-9923.

Evidence of Immunity

Offer MMR vaccine to persons without evidence of immunity. Evidence of immunity includes the following:

- Physician diagnosis of mumps infection;
- Laboratory evidence of mumps infection (presence of serum IgG mumps-specific antibodies by EIA) **testing to determine immune status should be sent to private laboratories**;
- Birth before 1957; or,
  Although birth before 1957 is usually considered proof of immunity, during an outbreak, vaccination can be considered for this age group if the epidemiology of the outbreak suggests that they are at increased risk of disease.

- One dose of MMR vaccine

  Since two doses of MMR vaccine are more effective than one dose for preventing mumps, a second dose of MMR vaccine is recommended for the following groups:
  - Health care workers
  - School-aged children\students at post-high school educational institutions
  - Other age groups considered at high risk of exposure

5 Year Summary of National and State Mumps Reported Morbidity

	2000	2001	2002	2003	2004
National	338	266	270	231	258
Virginia	11	8	5	1	11